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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/069,732 | 02/26/2002 | Hiroaki Nemoto | ASA-1074 | 3964 |
| 24956 | 7590 | 02/13/2007 | | |
| MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C. 1800 DIAGONAL ROAD SUITE 370 ALEXANDRIA, VA 22314 | | | EXAMINER PSITOS, ARISTOTELIS M | |
| | | | ART UNIT 2627 | PAPER NUMBER |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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| 3 MONTHS | 02/13/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|-----------------------------------|-------------------------------|--|
| Office Action Summary | Application No. 10/069,732 | Applicant(s) NEMOTO ET AL. | |
| | Examiner Aristotelis M. Psitos | Art Unit 2627 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

status

- 1) ☒ Responsive to communication(s) filed on 07 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12, 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Applicants' response of 11/7/06 has been considered with the following results.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

1. Claims 1-2,7-9 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The following analysis/problems exist:

- a) With respect to claims 1,12 and 2,7-9: as now recited, the ultimate paragraph of claim 1 recites a desired result, however as discussed in applicants' communication of 4/6/06 such a result is a result of more than just the steps recited in claim 1. Since as discussed on page 9 of the above communication, detailing figure 6 of the disclosure is not found in claims 1 and 2, these claims fail accordingly. Furthermore, with respect to claim 7, this recites a desired ability, but fails to positively recite the test writing and reading.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1 and 12 rejected under 35 U.S.C. 103(a) as being unpatentable over either Kaku et al or Ohta et al et al or JP 4-47512 and all further considered with JP 6-76307

claim 1

Kaku et al

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An information recording/reproducing
method, comprising the steps of:

see title/abstract

partially heating a recording medium with
an approximately circular optical spit in thermo-
magnetic recording to form
a magnetic domain, while applying a magnetic
field to the vicinity of the partially heated region, and

see figures 11,19-24
description

see above

scanning the recording medium so that a magnetic
flux from the magnetic domain is detected to
reproduce by a magnetic flux detecting means,

scanning occurs

wherein an orientation of the magnetic domain is aligned
with respect to the longitudinal direction of the magnetic
flux detecting means in accordance with the position
of the recording,

present in the references

wherein an approximately crescent shape recording
magnetic domain is formed by the thermo-magnetic
recording in which a direction of a magnetic wall
aligns with a direction of thermal distribution, and

forming the approximately circular optical spot with an
optical head as an optical recording element on a first
swing arm, and detecting magnetic flux with a
magnetic flux detection element on a second swing arm,

see JP

6-76307

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wherein the distance between a rotation center of the recording medium and the first swing arm axis for the optical head and a distance between a rotation center of the recording medium and the second swing arm axis for the magnetic flux detection element are the same. follows

As far as the examiner can ascertain from the above noted figures and their associated disclosure, the claimed steps of claim 1 are present in the overall combination of references.

The Kaku et al system depicts in figure 1 an opposing thermo-recording system, wherein the light source forming the circular light spots is on one side of the record medium and the interaction of the magnetic flux by way of the magnetic elements – see the descriptions of the above noted figures. The recording light spot is approximately circular, while the crescent shape recording magnetic domain is formed as required. Although Kaku et al shows two opposing elements, one for the optical and one for the magnetic, no two-swing arms are clearly depicted.

JP 6-76307 depicts in this environment two arm elements opposing the record medium. The examiner interprets these arms as meeting the swing arm limitations.

With respect to the wherein clause – this is interpreted as a desired result and such is present, i.e., any distance between the rotation center of the medium and the arm axis of the first and second swing arms is equal, because they are appropriately located on either side of the record medium.

The examiner also cites Ohta et al ('862) – see figure 5,6 thereof as well as JP 4-47512 – see figure 2, as also depicted the required elements to provide for the heating and magnetic field for the appropriately recorded crescent shaped magnetic domain and can be relied upon in place of Kaku et al.

With respect to claim 12, such is considered present in the above system.

Response to Arguments

Applicant's arguments filed 11/7/06 have been fully considered but they are moot in view of the new grounds of rejection.

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3. Claims 2, 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaku et al as relied upon above, further with its disclosure focusing upon figure 13 and well known mr reproducing/sensing heads and further considered with JP 6-765307.

Claims 2 and 3 require a magnetic flux detecting means, for its appropriate operation and a second swing arm for such.

As noted in figure 13 of Kaku et al, a separate reproducing head/means is provided for. It is not depicted as a magnetic flux detecting means.

Nevertheless, mr heads for detecting magnetic flux are well known in this environment and Official notice is taken thereof.

It would have been obvious to modify the base system of Kaku et al with such well-known elements, capability, motivation is to use mr reproducing elements for the reproducing means of Kaku et al.

Furthermore, the JP 6-76307 systems teaches at least two swing arms, The ability of placing the third element of Kaku et al upon such a swing arm element is considered merely a logical extension – i.e., Use of similar swing arm elements for the heads in the Kaku et al system.

With respect to the limitations of claims 4,5,6 and 13 such are present in the above combination of references, i.e., the appropriate direction of the heated region.

Response to Arguments

Applicant's arguments with respect to the claim have been considered but are moot in view of the new ground(s) of rejection.

4.. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 2 above, and further in view of JP 05-298737.

The ability of having a test-write and test read in this environment is taught by the JP reference to Kirino et al – see the abstract for instance.

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It would have been obvious to modify the base system as relied upon with respect to claim 2 in paragraphs 4 and/or 5 with the additional teaching from the JP document, motivation is to provide for the reduction as stated in the abstract of the JP document.

Response to Arguments

Applicant's arguments with respect to the claim have been considered but are moot in view of the new ground(s) of rejection.

5. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 2 above, and further in view of Ohta et al.

As interpreted by the examiner, the limitation of claim 8 is disclosed in the application as being present in the Ohta et al system, i.e., the land groove structure of the record medium.

It would have been obvious to modify the base system as relied upon above with respect to claim 2 as stated above, motivation is to provide for the appropriate servo capability.

With respect to the limitation of claim 9:

" ... has a recess-and projection structure such that an angle of the recess-and-projection structure with respect to the track direction is substantially in accord with an angle of the magnetic flux detecting means with respect to the track direction, at each position on the recording medium ". Such occurs when the system operates in order to record the appropriate servo.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yonezawa and JP 7-287888 are cited as also illustrative of a recorded crescent shaped magnetic domain – see figures 5a,b and its discussion.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date

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of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristotelis M. Psitos whose telephone number is (571) 272-7594. The examiner can normally be reached on M-F: 6:00 - 2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne D. Bost can be reached on (571) 272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Aristotelis M Psitos
Primary Examiner
Art Unit 2627



AMP